WHAT IS CLAIMED IS:

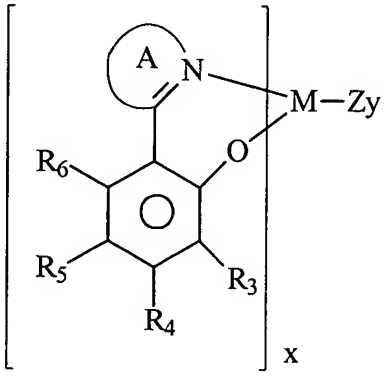
1. A device, comprising:

an anode;

a cathode;

a first organic layer disposed between the anode and the cathode, wherein the first organic layer produces phosphorescent emission when a voltage is applied between the anode and the cathode; and

an organic enhancement layer disposed between the first organic layer and the cathode, wherein the organic enhancement layer is in direct contact with the first organic layer, and wherein the organic enhancement layer comprises a material of Formula I, having the structure:



I

wherein

M is a metal;

R_3-R_6 are substituents, each independently selected from the group consisting of hydrogen, alkyl, alkenyl, alkynyl, alkylaryl, CN, CF_3, C_nF_{2n+1}, trifluorovinyl, CO_2R_1, $C(O)R_1$, NR_1R_2, NO_2, OR_1, halo, aryl, heteroaryl, substituted aryl, substituted heteroaryl or a heterocyclic group, wherein each of R_1 and R_2 is independently selected from the group consisting of hydrogen, alkyl, alkylaryl and aryl;

ring A is an aromatic heterocyclic or a fused aromatic heterocyclic ring with at least one

nitrogen atom that is coordinated to the metal M, wherein the ring can be optionally substituted;

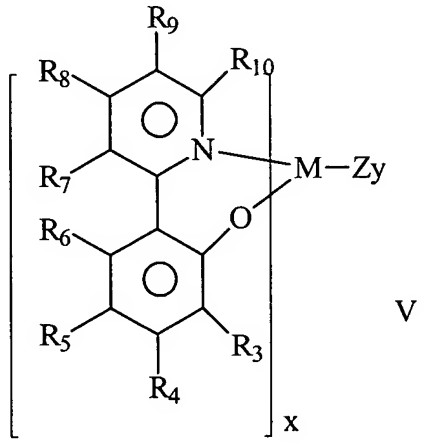
each Z may be the same or different, and is an ancillary ligand;

x is a value from 1 to the maximum number of ligands that may be attached to the metal; and

x+y is less than or equal to the maximum number of ligands that may be attached to the metal.

2. The device of claim 1, wherein ring A is an aromatic heterocyclic or a fused aromatic heterocyclic ring with one nitrogen atom that is coordinated to the metal M, wherein the ring can be optionally substituted.

3. The device of claim 1, wherein the organic enhancement layer comprises a material of Formula V having the structure:



V

wherein R_3-R_{10} are substituents, each independently selected from the group consisting of hydrogen, alkyl, alkenyl, alkynyl, alkylaryl, CN, CF_3, C_nF_{2n+1}, trifluorovinyl, CO_2R_1, $C(O)R_1$, NR_1R_2, NO_2, OR_1, halo, aryl, heteroaryl, substituted aryl, substituted heteroaryl or a heterocyclic group, wherein each of R_1 and R_2 is independently selected from the group consisting of hydrogen, alkyl, alkylaryl and aryl.

4. The device of claim 3, wherein y is zero and x is the maximum number of ligands that may be attached to the metal M.

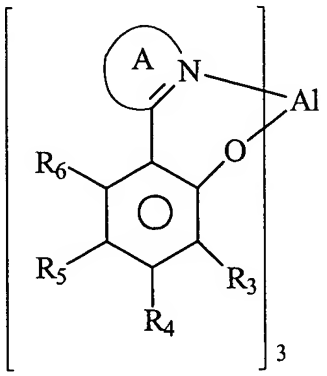
5. The device of claim 3, wherein M is selected from the group consisting of aluminum, gallium, magnesium, zinc, copper and lead.

6. The device of claim 5, wherein M is aluminum.

7. The device of claim 6, wherein y is zero.

8. The device of claim 6, wherein R_3-R_{10} are each hydrogen.

9. The device of claim 1, wherein the organic enhancement layer comprises a material of Formula VII having the structure:

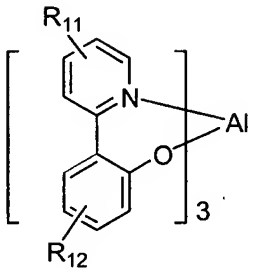


VII

10. The device of claim 9, wherein ring A is an aromatic heterocyclic or a fused aromatic heterocyclic ring with one nitrogen atom that is coordinated to the metal M, wherein the ring can be optionally substituted.

11. The device of claim 1, wherein the organic enhancement layer comprises a material of

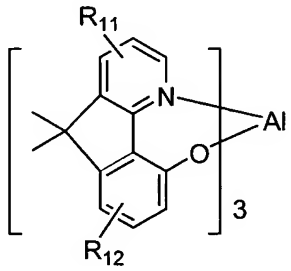
Formula VIII having the structure:



VIII

wherein R_{11} and R_{12} are substituents, each independently selected from the group consisting of hydrogen, alkyl, alkenyl, alkynyl, alkylaryl, CN, CF_3, C_nF_{2n+1}, trifluorovinyl, CO_2R_1, $C(O)R_1$, NR_1R_2, NO_2, OR_1, halo, aryl, heteroaryl, substituted aryl, substituted heteroaryl or a heterocyclic group, wherein each of R_1 and R_2 is independently selected from the group consisting of hydrogen, alkyl, alkylaryl and aryl.

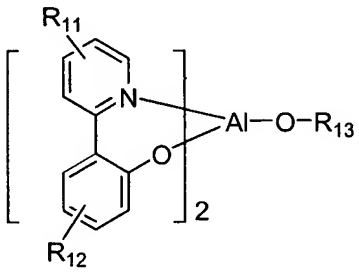
12. The device of claim 1, wherein the organic enhancement layer comprises a material of Formula IX having the structure:



IX

wherein R_{11} and R_{12} are substituents, each independently selected from the group consisting of hydrogen, alkyl, alkenyl, alkynyl, alkylaryl, CN, CF_3, C_nF_{2n+1}, trifluorovinyl, CO_2R_1, $C(O)R_1$, NR_1R_2, NO_2, OR_1, halo, aryl, heteroaryl, substituted aryl, substituted heteroaryl or a heterocyclic group, wherein each of R_1 and R_2 is independently selected from the group consisting of hydrogen, alkyl, alkylaryl and aryl.

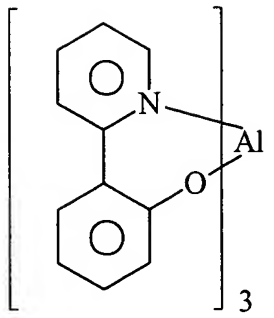
13. The device of claim 1, wherein the organic enhancement layer comprises a material of Formula X having the structure:



X

wherein R_{11}, R_{12} and R_{13} are substituents, each independently selected from the group consisting of hydrogen, alkyl, alkenyl, alkynyl, alkylaryl, CN, CF_3, C_nF_{2n+1}, trifluorovinyl, CO_2R_1, $C(O)R_1$, NR_1R_2, NO_2, OR_1, halo, aryl, heteroaryl, substituted aryl, substituted heteroaryl or a heterocyclic group, wherein each of R_1 and R_2 is independently selected from the group consisting of hydrogen, alkyl, alkylaryl and aryl.

14. The device of claim 1, wherein the organic enhancement layer comprises a material of Formula XI having the structure:



XI

15. The device of claim 1, wherein the material of Formula I has a glass transition temperature of at least about 95°C.

16. The device of claim 15, wherein the material of Formula I has a glass transition temperature of at least about 108°C.

17. The device of claim 1, wherein the material of Formula I has a fluorescence peak at less than about 450 nm.

18. The device of claim 17, wherein the material of Formula I has a fluorescence peak at less than about 430 nm.

19. The device of claim 1, wherein the material of Formula I is thermally stable up to at least about 330°C.

20. The device of claim 19, wherein the material of Formula I is thermally stable up to at least about 350°C.

21. The device of claim 1, wherein the organic enhancement layer is in direct contact with the cathode.

22. The device of claim 1, further comprising an additional organic layer disposed between the organic enhancement layer and the cathode.

23. The device of claim 1, wherein the first organic layer comprises a hole transporting material.

24. The device of claim 23, wherein the organic enhancement material comprises a material having a lowest unoccupied molecular orbital energy level that is not more than 0.3 eV less than the energy level of the lowest occupied molecular orbital of the hole transporting material in the first organic layer.

25. The device of claim 24, wherein the organic enhancement material comprises a material having a lowest unoccupied molecular orbital energy level that is not more than 0.15 eV less than the energy level of the lowest occupied molecular orbital of the hole transporting material in the first organic layer.

26. The device of claim 23, wherein the organic enhancement material comprises a material having a lowest unoccupied molecular orbital energy level that is greater than the energy level of the lowest occupied molecular orbital of the hole transporting material in the first organic layer.

27. A device, comprising:

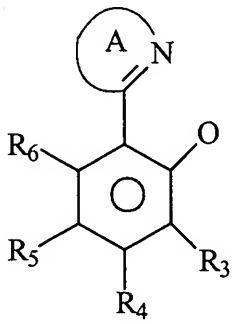
an anode;

a cathode;

a first organic layer disposed between the anode and the cathode, wherein the first organic layer produces phosphorescent emission when a voltage is applied between the anode and the cathode; and

an organic enhancement layer disposed between the first organic layer and the cathode,

wherein the organic enhancement layer is in direct contact with the first organic layer, and wherein the organic enhancement layer comprises a material which comprises a ligand having the structure (II):



II

wherein

the ligand is attached to a metal M, such that the resulting material has (i) an oxygen-metal bond and (ii) the nitrogen of ring A is coordinated to the metal;

wherein R_3-R_6 are substituents, each independently selected from the group consisting of hydrogen, alkyl, alkenyl, alkynyl, alkylaryl, CN, CF_3, C_nF_{2n+1}, trifluorovinyl, CO_2R_1, $C(O)R_1$, NR_1R_2, NO_2, OR_1, halo, aryl, heteroaryl, substituted aryl, substituted heteroaryl or a heterocyclic group, wherein each of R_1 and R_2 is independently selected from the group consisting of hydrogen, alkyl, alkylaryl and aryl; and

ring A is an aromatic heterocyclic or a fused aromatic heterocyclic ring with at least one nitrogen atom that is coordinated to the metal M, wherein the ring can be optionally substituted.

28. The device of claim 27, wherein ring A is an aromatic heterocyclic or a fused aromatic heterocyclic ring with one nitrogen atom that is coordinated to the metal M, wherein the ring can be optionally substituted.

29. The device of claim 27, wherein the ligand is attached to a metal M.

30. The device of claim 27, wherein M is selected from the group consisting of aluminum, gallium, magnesium, zinc, copper and lead.

31. The device of claim 30, wherein M is aluminum.

32. The device of claim 27, wherein R_3, R_4, R_5 and R_6 are each hydrogen.

33. The device of claim 27, wherein ring A is a 6-membered ring.

34. The device of claim 27, wherein the first organic layer comprises a hole transporting material.

35. The device of claim 34, wherein the organic enhancement material comprises a material having a lowest unoccupied molecular orbital energy level that is not more than 0.3 eV less than the energy level of the lowest occupied molecular orbital of the hole transporting material in the first organic layer.

36. The device of claim 35, wherein the organic enhancement material comprises a material having a lowest unoccupied molecular orbital energy level that is not more than 0.15 eV less than the energy level of the lowest occupied molecular orbital of the hole transporting material in the first organic layer.

37. The device of claim 34, wherein the organic enhancement material comprises a material having a lowest unoccupied molecular orbital energy level that is greater than the energy level of the lowest occupied molecular orbital of the hole transporting material in the first organic layer.